

WHAT IS CLAIMED IS:

1. A display driver circuit having a driver transistor for supplying
a current from a power supply to an electroluminescence element,
5 for controlling the driver transistor to control light emission
of the electroluminescence element, the display driver circuit
comprising:

a data line driven by a current corresponding to data related
to an amount of light emission;

10 a gate line driven by a selection signal for selecting an
electroluminescence element which is to emit light;

a selection transistor having one terminal connected to the
data line and a gate connected to the gate line;

a voltage converter transistor having one terminal connected
15 to the other terminal of the selection transistor, the other terminal
connected to a power supply, and a gate connected to the gate of
the driver transistor;

a short-circuiting transistor connecting the other terminal
of the selection transistor and the gate of the voltage converter
20 transistor and having a gate connected to the gate line;

an erase transistor having one terminal connected to the gate
of the driver transistor, the other terminal connected to the power
supply, and a gate connected to an erase line; and

a capacitor for storing a voltage, connected to the gate of
25 the driver transistor, wherein

the data line is driven with a current corresponding to data
and the gate line is driven so that the selection transistor and
the short-circuiting transistor are switched on and the current
corresponding to the data flows through the voltage converter

transistor to charge the capacitor to a voltage corresponding to the data, a current corresponding to the charged voltage of the capacitor is applied to the electroluminescence element through the driver transistor, and, after a predetermined emission period
5 has elapsed, the erase line is driven to switch the erase transistor on so as to discharge the capacitor.

2. A circuit according to Claim 1, wherein
the driver transistor, the voltage converter transistor, and
10 the erase transistor are p-channel transistors and the selection transistor and the short-circuiting transistor are n-channel transistors.

3. A circuit according to Claim 1, wherein
15 the driver transistor, the voltage converter transistor, the erase transistor, the selection transistor, and the short-circuiting transistor are n-channel transistors.

4. A circuit according to Claim 1, wherein
20 the driver transistor, the voltage converter transistor, the erase transistor, the selection transistor, and the short-circuiting transistor are p-channel transistors.

5. A circuit according to Claim 1, wherein
25 the driver transistor, the voltage converter transistor, the erase transistor, the selection transistor, and the short-circuiting transistor are provided for each pixel corresponding to the electroluminescence element provided for each pixel,
the pixels are arranged in a matrix form,

the gate line is arranged along the row direction, and
the data line is arranged along the column direction.

6. A display driver circuit having a driver transistor for supplying
5 a current from a power supply to an electroluminescence element,
for controlling the driver transistor to control light emission
of the electroluminescence element, the display driver circuit
comprising:

a data line driven by a current corresponding to data related
10 to an amount of light emission;

a gate line driven by a selection signal for selecting an
electroluminescence element which is to emit light;

a selection transistor having one terminal connected to the
data line and a gate connected to the gate line;

15 a voltage converter transistor having one terminal connected
to the other terminal of the selection transistor, the other terminal
connected to a power supply, and a gate connected to the gate of
the driver transistor;

a short-circuiting transistor connecting the other terminal
20 of the selection transistor and the gate of the voltage converter
transistor and for receiving a write timing signal on its gate;

an erase transistor having one terminal connected to the gate
of the driver transistor, the other terminal connected to the power
supply, and a gate connected to an erase line; and

25 a capacitor for storing a voltage, connected to the gate of
the driver transistor, wherein

the data line is driven with a current corresponding to data
and the gate line is driven to switch the selection transistor on
and the short-circuiting transistor is switched on by a write timing

signal so that the current corresponding to the data flows through the voltage converter transistor to charge the capacitor to a voltage corresponding to the data, a current corresponding to the charged voltage of the capacitor is applied to the electroluminescence element through the driver transistor, and, after a predetermined emission period has elapsed, the erase line is driven to switch the erase transistor on so as to discharge the capacitor.

7. A circuit according to Claim 6, wherein

10 the write timing signal transitions to a write level simultaneously with the selection by the selection signal and transitions to a non-write level before the end of a period in which the selection signal continues to be in the selection condition.

15 8. A circuit according to Claim 6, wherein

 the write timing signal is supplied from a write line provided along with the gate line.

9. A circuit according to Claim 6, wherein

20 the driver transistor, the voltage converter transistor, and the erase transistor are p-channel transistors and the selection transistor and the short-circuiting transistor are n-channel transistors.

25 10. A circuit according to Claim 6, wherein

 the driver transistor, the voltage converter transistor, the erase transistor, the selection transistor, and the short-circuiting transistor are n-channel transistors.

11. A circuit according to Claim 6, wherein

the driver transistor, the voltage converter transistor, the erase transistor, the selection transistor, and the short-circuiting transistor are p-channel transistors.

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12. A circuit according to Claim 6, wherein

the driver transistor, the voltage converter transistor, the erase transistor, the selection transistor, and the short-circuiting transistor are provided for each pixel corresponding to the

10 electroluminescence element provided for each pixel,

the pixels are arranged in a matrix form,

the gate line is arranged along the row direction, and

the data line is arranged along the column direction.

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